CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 11/27/2006

Experimenters: Jason Marshall

ClientType: Lab

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Greases, Dirt, Oil

Cleaning Methods: Low Pressure Spray

Analytical Methods: Gravimetric

Purpose: Laboratory evaluations of alternative aerosol cleaning products

Experimental Procedure: Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning.

Five products were selected for testing based on previous testing on the selected soil. All five products were diluted to 3% using DI water. Products were used at room temperature. Fifteen preweighed aluminum coupons were coated with a collection of brake/engine soil collected from an automobile shop. The coupons were allowed to sit for several days before a second weight was recorded. Three coupons were cleaned in each solution for less than one minute using low pressure spray. Coupons were not rinsed but were dried using air blow off at room temperature for 10 seconds. Following drying, final weights were recorded and cleaning efficiencies were calculated.

Results: All five products removed over 95% of the soil at the lower dilutions. However, all solutions had an increase in foaming. The table below lists the amount of soil applied, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	%Removed
Aquavantage 1400	0.1320	0.0090	93.18
	0.4230	0.0102	97.59
	0.3303	0.0135	95.91
Inproclean 3800	0.3562	0.0117	96.72
	0.2107	0.0102	95.16
	0.4612	0.0090	98.05
California Parts Washer	0.3663	0.0059	98.39
	0.1639	0.0036	97.80
	0.1740	0.0075	95.69
Eliminator	0.3270	0.0036	98.90
	0.3434	0.0029	99.16
	0.6118	0.0053	99.13
Sea Wash Blue	0.2952	0.0033	98.88
	0.6141	0.0028	99.54
	0.2878	0.0048	98.33

Summary:

Substrates:	Aluminum				
Contaminants:	Greases, Dirt, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Brulin Corporation	Aquavantage 1400	3	95.56	☑	
Oakite Products	Inproclean 3800	3	96.64	☑	
Phase III Inc	California Parts Washer Solution	3	97.29	☑	
Phase III Inc	Eliminator	3	99.06	☑	
Warren Chemical Company	Sea Wash Blue	3	98.92	☑	

Conclusion: All five were effective at the lower concentrations but had increased foaming levels. Higher concentration (~10%) may be used in EnviroCaddie system.